Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

Response to: "Commentary on 'Role of phototherapy in the era of biologics'"

To the Editor: We read with interest and appreciation the commentary of Botsali,[1] which expounds on the potential harm associated with the combination of narrowband ultraviolet (UV) B (NB-UVB) phototherapy and immunosuppressive agents, specifically, tumor necrosis factor inhibitors (anti-TNF).

Having been around for more than 4 decades, phototherapy has a well-known efficacy and long-term safety profile. Because immunosuppression is one of the key mechanisms by which phototherapy controls inflammatory skin diseases,[2] the risk of immunosuppression and subsequent cancer development is of particular concern, especially when phototherapy is combined with systemic immunosuppressive therapies. Although it has been found that photochemotherapy with psoralen plus UVA significantly increases the risk of keratinocyte carcinomas, there has been no such evidence for NB-UVB monotherapy.[2] A retrospective study of more than 3000 patient records found no significant association between NB-UVB and the development of melanoma and keratinocyte carcinomas.[3] The median number of phototherapy sessions was 29, which approximates a typical course in clinical practice wherein substantial improvement in skin lesions is seen.[2,3]

Previous human studies have also shown that the combination of NB-UVB with anti-TNF agents or other biologics is relatively safe.[2] However, given the lack of long-term data on these combinations, it is reasonable to proceed with caution. Of note, concomitant therapy with NB-UVB and biologics is typically done in clinical practice for only a few months.

Concerns regarding immunosuppression are of special importance amidst the ongoing COVID-19 pandemic. Patients may opt to discontinue treatment and risk having a disease flare because of fears of contracting the virus. According to a recent study by Veenstra et al,[4] patients on immunosuppressive medications (including anti-TNF agents) for various immune-mediated inflammatory conditions (including psoriasis) did not show a significantly elevated risk of acquiring COVID-19 or having a more severe disease course compared to the general population. In addition, anti-TNF therapy was associated with a decreased likelihood of hospitalization due to COVID-19.[4] The study did not account for patients who are on topicals or phototherapy in addition to immunosuppressive medications. However, given that patients who are candidates for immunosuppressive drugs often have moderate to severe skin disease, it is possible that these patients have a current or previous course of phototherapy. Moreover, based on clinical experience with HIV-positive patients, phototherapy is a safe and reasonable option during this time.[2]

Finally, care must be taken when extrapolating data obtained from in vitro or animal studies into clinical practice. The mouse study conducted by Botsali and colleagues provided valuable insight into the potential additive carcinogenic effect of combining NB-UVB with anti-TNF agents.[5] However, as the commenting author recognized, these results cannot be readily applied to the human population. This is because although useful information can be obtained from in vitro or animal models, they often lack the intricacies and complex interplay of human anatomy and physiology.

In summary, the aim of the review "Role of Phototherapy in the Era of Biologics" was to emphasize the utility, cost effectiveness, and versatility of phototherapy as a treatment option. Because no therapeutic modality is completely devoid of risk, appropriate adjustments should be made on a case-to-case basis.

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Johnson and Ra Medical Systems. Dr Torres has no conflicts of interest to declare.

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Reprints not available from the authors.

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REFERENCES

1. Botsali A. Commentary on "Role of phototherapy in the era of biologics." *J Am Acad Dermatol*. 2021. https://doi.org/10.1016/j.jaad.2020.08.128.
2. Torres AE, Lyons AB, Hamzavi IH, Lim HW. Role of phototherapy in the era of biologics. *J Am Acad Dermatol*. 2021;84(2):e93.
3. Hearn RM, Kerr AC, Rahim KF, Ferguson J, Dawe RS. Incidence of skin cancers in 3867 patients treated with narrow-band ultraviolet B phototherapy. *Br J Dermatol*. 2008;159:931-935.
4. Veenstra J, Buechler CR, Robinson G, et al. Antecedent immunosuppressive therapy for immune-mediated inflammatory diseases in the setting of a COVID-19 outbreak. *J Am Acad Dermatol*. 2020;83(6):1696-1703.
5. Caliskan E, Gamsizkan M, Yurekli A, et al. Anti-TNF agent etanercept augments UV-induced skin cancer development in SKH-1 mice. *J Dermatolog Treat*. 2020. https://doi.org/10.1080/09546634.2019.1708851.

https://doi.org/10.1016/j.jaad.2020.09.040